REMARKS

Reconsideration of this application in view of the above amendments and following remarks is respectfully requested.

Claims 1-16, 19, 20 and 45-49 are now pending. Claims 1, 19 and 20 are amended herein. Claims 17, 18 and 21-44 have been canceled. Claims 45-49 are new.

As an initial matter, Applicants have amended claim 1 by incorporation of the language from dependent claim 18, as well as by making various amendments with regard to antecedent basis and for purpose of clarity. As a result, claim 18 has been canceled to avoid duplicative claim language, and claims 19 and 20 now depend from claim 1 (as opposed to canceled claim 18).

Applicants have also canceled claims 17 and 21-44. Of course, cancellation of these claims is not intended as an acquiescence to the outstanding rejection, and Applicants reserve the right to continue prosecution of the same in one or more related applications.

New claims 45-49 have been added to more specifically recite certain embodiments of the subject matter currently under examination and do not constitute the introduction of new subject matter. Support for these new claims may be found throughout the specification.

Turning the outstanding rejection, all pending claims stand rejected under 35 U.S.C §102(b) as anticipated by, or under 35 U.S.C. §103(a) as obvious over, published PCT application WO 97/01087 to Oroszlan et al. (hereinafter "Oroszlan"). Applicants respectfully traverse this rejection for the reasons set forth below.

The sole pending independent claim -- that is, claim 1 -- is directed to a method of analyzing a fluid sample for at least one analyte comprising, *inter alia*, the steps of sensitizing a discrete sensing area on a sensing surface using controllable adjacent laminar flows of a sensitizing fluid and a second fluid to selectively position the sensitizing fluid over the sensing area, followed by contacting the sensitized area with an analyte-containing fluid sample (optionally using adjacent laminar flows of sample and a second fluid to selectively position the sample over the sensitized area). In this context, if should be noted that the term "sensitizing" as used in the present application means "any process or activation of a sensing area that results in

the sensing area being capable of specifically interacting with a desired analyte" (*see* specification at page 22, lines 17-20).

Oroszlan does not teach or suggest the use of adjacent laminar fluid flows to "sensitize" (as defined above) a sensing area. Even less is there disclosed in Oroszlan the steps noted above; namely, wherein a discrete area of a sensing surface is first sensitized by the laminar flow technique, and the sensitized area is then contacted with a sample to permit analyte to interact with the sensitized area. In contrast, Oroszlan discloses contacting a sample with a detection layer of the flow channel that has already been sensitized by other means.

The Examiner does correctly note that Oroszlan discloses the use of reference fluid flows to separate parallel sample fluid flows in a flow channel, thereby replacing "structural partitions" that divide the flow channel into chambers. For example, in Figure 9 of Oroszlan, there are three parallel sample fluid streams (P1, P2, P3) separated by two reference fluid streams (R1, R2). Oroszlan further discloses that the "partition walls" can be displaced by regulating the flow rates (*see* page 30, third paragraph). Specifically, Oroszlan states that one or two of the sample streams (P1, P2, P3) may be stopped altogether simultaneously as the flow rates of the adjacent streams are increased (*id.*).

In contrast to Oroszlan, the "blocking fluid" is not used in the pending claims as a partition wall to separate two sample streams from one another. Rather, a laminar flow of blocking fluid adjacent to a laminar flow of sensitizing fluid, or two blocking fluid flows sandwiching a sensitizing fluid flow between them, are used to guide the sensitizing fluid flow laterally to make the sensitizing fluid selectively contact a desired discrete area on a sensing surface. Thus, when the present invention, for example, uses two fluid flows, there is a sensitizing fluid flow and a blocking fluid flow, both fluids flowing adjacent to each other in the same direction and the interface between them being displaceable. On the other hand, when two fluid flows are used in Oroszlan, there is a sample flow and an opposed flow of reference fluid (R3 in Figure 9), the interface between them being fixed and positioned at a common outlet for the two fluid flows (*see* page 10 of Oroszlan, first paragraph).

When the present invention uses three parallel fluid flows, there is a flow of sensitizing fluid, and a flow of blocking fluid on each side of the sensitizing fluid flow, and each

interface between blocking fluid and sensitizing fluid can be displaced in order to guide and position the sensitizing fluid at a desired position on the surface. In contrast, the use of three parallel fluid flows in analogy with the disclosure of Oroszlan, and as specifically shown in Figure 9 thereof, would involve a reference fluid flow separating two adjacent sample flows.

Consequently, the use of laminar flow techniques as recited in the pending claims of the present application to selectively sensitize one or more discrete sensing surface areas, followed by contacting the sensitized area(s) with a sample containing analyte, is neither taught nor suggested by the disclosure of Oroszlan.

Lastly, the Examiner concludes the outstanding Office Action by stating that "[i]t would have been obvious to have a first sensitizing fluid to traverse a second sensitizing fluid to optimize the flow of fluid throughout the flow cell." Applicants strongly disagree.

In one embodiment of this invention, laminar flows of at least two different sensitizing fluids are crossed to generate an overlapping sensing surface area. For example, by sensitizing a surface streak in a first flow direction with a bifunctional ligand, and then contacting the surface with a transverse flow of a fluid containing a ligand capable of binding to the bifunctional ligand, the discrete area overlapping with the streak sensitized with the bifunctional ligand is selectively sensitized with the second ligand. In this way, a two-dimensional array of spots, each spot supporting the same or a different ligand, may be generated. Such use of crossed laminar flows is not suggested, much less described, in Oroszlan, and such a technique is clearly non-obvious to the skilled person. If the Examiner remains of a contrary position, he is kindly requested to provide appropriate documentary evidence in support of his position.

In conclusion, Applicants respectfully submit that Oroszlan does not teach or suggest the claimed subject matter, and request that claims 1-16, 19, 20 and 45-49 be passed to issuance. A good faith effort has been made to place this application in condition for allowance. However, should any further issue require attention prior to allowance, the Examiner is requested to contact the undersigned at (206) 622-4900 to resolve the same.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC

Karl R. Hermanns
Registration No. 33,507

KRH:lhk

701 Fifth Avenue, Suite 6300
Seattle, Washington 98104-7092
Phone: (206) 622-4900
Fax: (206) 682-6031

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